FIG. 1

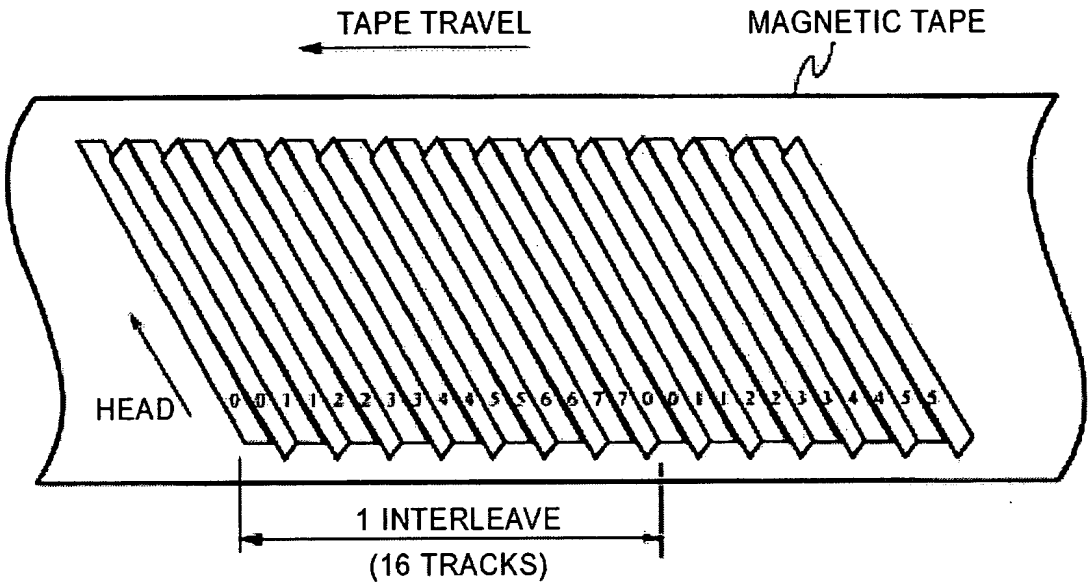
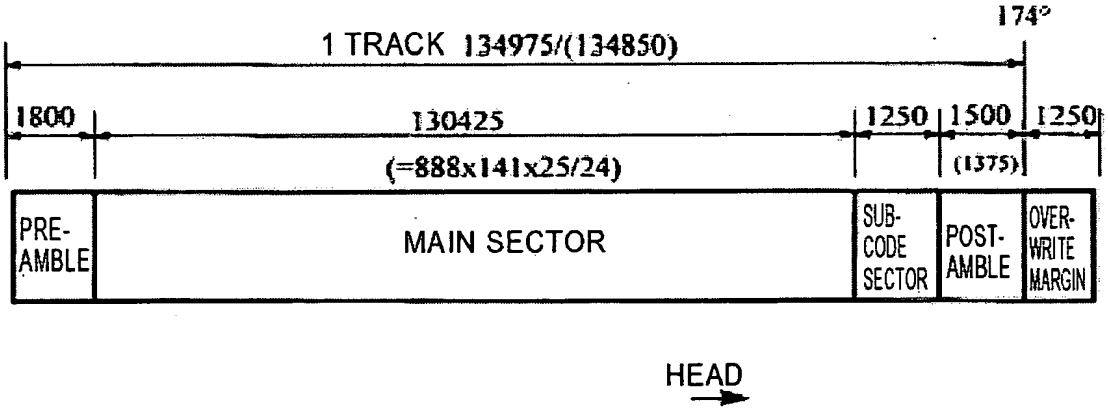



FIG. 2




Best Available Copy

FIG. 3

| RUN PATTERN | CODEWORD MSB LSB |
|---|---|
| PATTERN A | 0 0 0 1 1 1 0 0 0 1 1 1 0 0 0 0 0 1 1 1 0 0 0 1 1 |
| PATTERN B | 1 1 1 0 0 0 1 1 1 0 0 0 1 1 1 1 1 0 0 0 1 1 1 0 0 |

FIG. 4

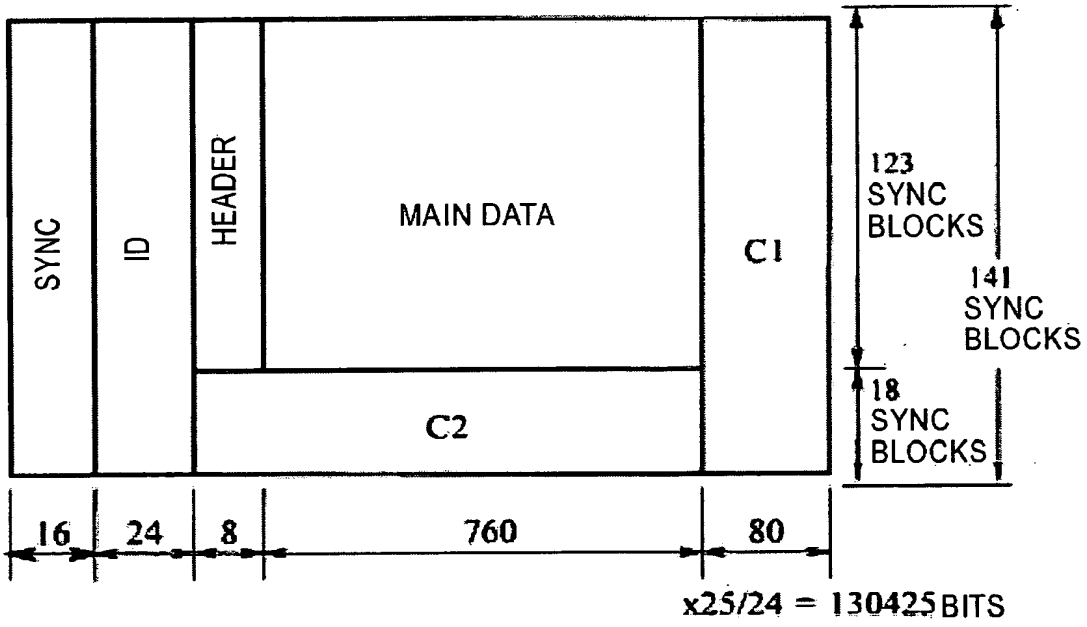


FIG. 5

| | MSB LSB |
|---|---|
| SYNC PATTERN M0 | 0 1 0 1 1 1 1 1 1 1 1 1 1 0 0 0 0 |
| SYNC PATTERN M1 | 1 0 1 0 0 0 0 0 0 0 0 0 0 1 1 1 1 |

FIG. 6

| ID0 | | ID1 | ID2 |
|---|---|---|---|
| b7-5 | b4 - 0 | MSB | MSB |

| | | | |
|---|---|---|---|
| FORMAT-TYPE | TRACK PAIR NUMBER (0–31) | SYNC BLOCK NO. | OVERWRITE PROTECT |

FIG. 7

| b7 | b6 | b5 | b4 | b3 | b2 | b1 | b0 |
|---|---|---|---|---|---|---|---|
| ← DATA TYPE → | | | | | | | |
| 0 | NULL | | RESERVED | | | | |
| 1 | AUX | | AUX MODE | | | DF/FRC | SBSC |
| 2 | PES-VIDEO | | FULL/PARTIAL | CONTINUITY COUNTER | | | |
| 3 | PES-AUDIO | | FULL/PARTIAL | CONTINUITY COUNTER | | | |
| 4 | TS-1H | | JUMP FLAG | | TIME STAMP | | |
| 5 | TS-2H | | CONTINUITY COUNTER | | | | |
| 6 | SEARCH | | RESERVED | SEARCH SPEED | | | SBSC |
| 7 | RESERVED | | RESERVED | | | | |

| SEARCH SPEED | |
|---|---|
| 0 | RESERVED |
| 1 | RESERVED |
| 2 | SEARCH x8 |
| 3 | RESERVED |
| 4 | SEARCH x24 |
| 5-7 | RESERVED |

| AUX MODE | b4-2 | b1 |
|---|---|---|
| 0 | AUX-V | FRC |
| 1 | AUX-A | RESERVED |
| 2 | PES-PSI 1 | RESERVED |
| 3 | PES-PSI 2 | RESERVED |
| 4 | AUX-SYSTEM (ECCTB) | DF |
| 5 | AUX-M | FRC |
| 6,7 | RESERVED | RESERVED |



10/517073

FIG. 8

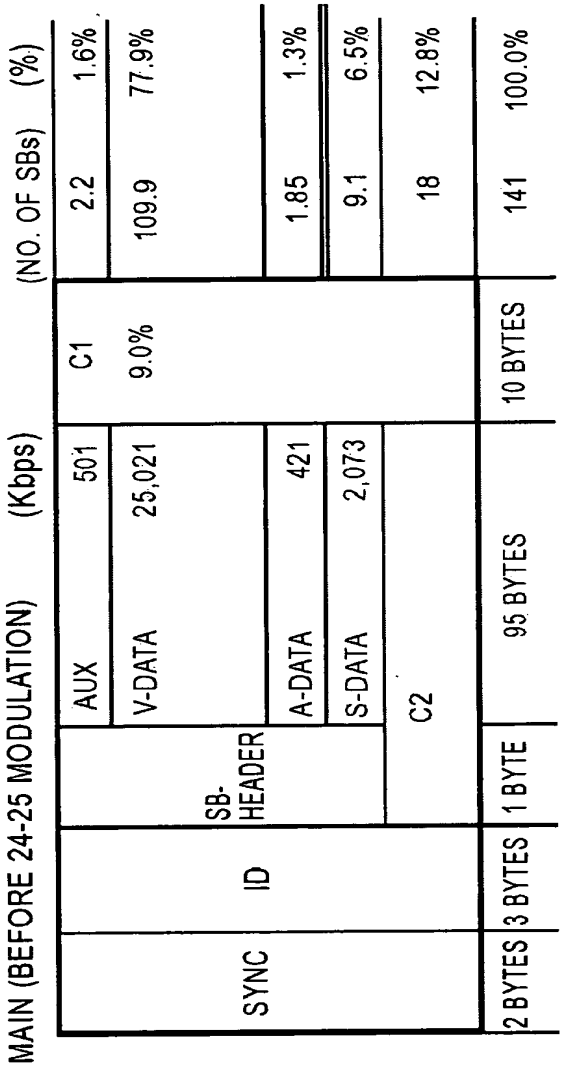

MAIN (BEFORE 24-25 MODULATION)
(Kbps)
(NO. OF SBs)
(%)
SYNC
ID
SB-HEADER
AUX
501
2.2
1.6%
V-DATA
25,021
109.9
77.9%
A-DATA
421
1.85
1.3%
S-DATA
2,073
9.1
6.5%
C2
18
12.8%
C1
9.0%
2 BYTES
3 BYTES
1 BYTE
95 BYTES
10 BYTES
141
100.0%

FIG. 9

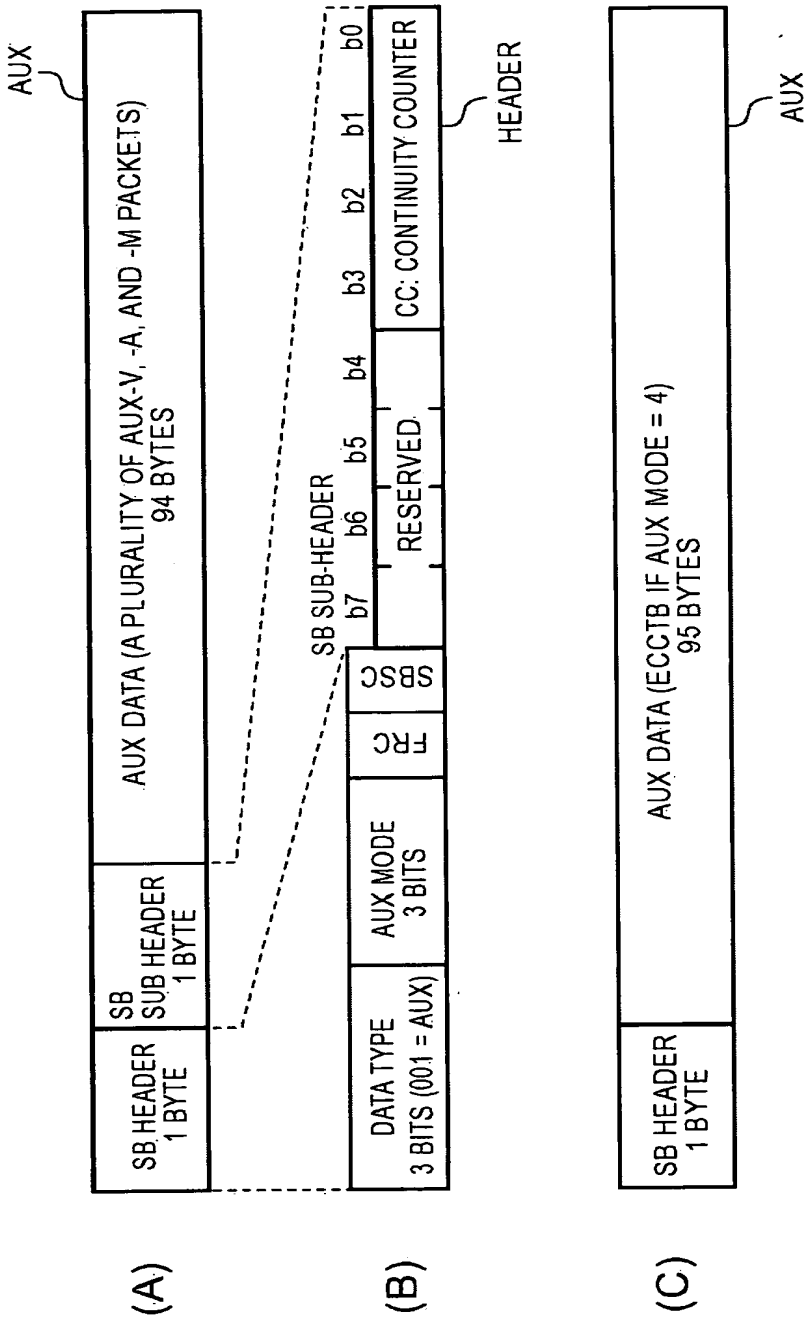

AUX
SB HEADER 1 BYTE
SB SUB HEADER 1 BYTE
AUX DATA (A PLURALITY OF AUX-V, -A, AND -M PACKETS) 94 BYTES
(A)
SB SUB-HEADER
b7 b6 b5 b4 b3 b2 b1 b0
DATA TYPE 3 BITS (001 = AUX)
AUX MODE 3 BITS
TRC
SBSC
RESERVED
CC: CONTINUITY COUNTER
HEADER
(B)
SB HEADER 1 BYTE
AUX DATA (ECCTB IF AUX MODE = 4) 95 BYTES
AUX
(C)

FIG. 10

| FIXED-LENGTH (DATA 4 BYTES) PACKET STRUCTURE | | | | | |
|---|---|---|---|---|---|
| BITS | 7 | 6 | 5 | .... | 0 |
| KEYWORD | 0 | 0 | KEYWORD NUMBER | | |
| DATA | DATA<br>4 BYTES | | | | |

FIG. 11

| VARIABLE-LENGTH PACKET STRUCTURE | | | | | |
|---|---|---|---|---|---|
| BITS | 7 | 6 | 5 | .... | 0 |
| KEYWORD | 0 | 1 | KEYWORD NUMBER | | |
| LENGTH | NUMBER OF BYTES n | | | | |
| DATA | DATA<br>n BYTES | | | | |

FIG. 12

4-BYTE FIXED LENGTH

| KEY-WORD | AUX CATEGORY | DESCRIPTION | REMARKS |
|---|---|---|---|
| 0 | SUB | TTC | FOR SUBCODE 5-BYTE 1 PACKET |
| 1 | SUB | BINARY GROUP | |
| 2 | SUB | PART NO. | |
| 3 | SUB | CHAPTER START | |
| 4 | SUB | ATNF (ATN+FLG) | |
| 5 | SUB | REC DATE | |
| 6 | SUB | REC TIME | |
| 7 | SUB | ETN | |
| 8 | RES. | RESERVED | |
| : | RES. | RESERVED | |
| 62 | RES. | RESERVED | |
| 63 | RES. | NO-INFORMATION PACK | USED IF THERE IS NO VALID DATA |



10/517073

FIG. 13

VARIABLE-DATA-LENGTH PACKET

| KEY-WORD | AUX CATEGORY | DESCRIPTION | REMARKS |
|---|---|---|---|
| 64 | AUX-A | AUD-FRAM | PES-AUD & EDIT INFO. |
| 65 | AUX-A | RESERVED | |
| 66 | AUX-A | RESERVED | |
| 67 | AUX-A | RESERVED | |
| 68 | AUX-V | VID-FRAM | PES-VIDEO & EDIT INFO. |
| 69 | AUX-V | RESERVED | |
| 70 | AUX-V | RESERVED | |
| 71 | AUX-V | RESERVED | |
| 72 | AUX-V | UMID | 64-BYTE DATA |
| 73 | AUX-V | DV PACKET | MAX 18 DV COMPATIBLE 5-BYTE PACKETS |
| 74 | AUX-V | RESERVED | |
| 75 | AUX-V | RESERVED | |
| 76 | AUX-V | RESERVED | |
| 77 | AUX-V | ASCII CHAR MESSAGE | |
| 78 | AUX-V | SHIFT JIS MESSAGE | JAPANESE TEXT |
| 79 | AUX-V | BINARY | |
| 80 | SYS. | ECCTB | EDIT INFO./SUBCODE DATA |
| 81 | SYS. | RESERVED | |
| 82 | SYS. | RESERVED | |
| 83 | SYS. | RESERVED | |
| 84 | RES. | RESERVED | |
| : | RES. | RESERVED | |
| 119 | RES. | RESERVED | |
| 120 | AUX-M | RESERVED | |
| 121 | AUX-M | | |
| 122 | AUX-M | | |
| 123 | AUX-M | | |
| : | AUX-M | | |
| 126 | AUX-M | | |
| 127 | AUX-N | NULL | NULL PACKET |

FIG. 14

| DATA # | DESCRIPTION | | REMARKS |
|---|---|---|---|
| 0. | AUDIO FRAME PACKET KEYWORD | 1 | KEYWORD = 64 |
| 1. | LENGTH | 1 | 92 |
| 2. | VTR MODE | 1 | OPERATION MODE FOR TS OUTPUT |
| 3. | ATNF (FLE+ATN+FLG) | 5 | SAME CONTENTS AS VID-FRAME IN COMBINATION |
| 8. | EXTENDED TRACK NUMBER | 3 | SAME CONTENTS AS VID-FRAME IN COMBINATION |
| 11. | TTC | 5 | SAME CONTENTS AS VID-FRAME IN COMBINATION |
| 16. | | | |
| 16. | DATE/TIME ORIGINAL | 10 | IN THE ORDER OF DATE(5B) + TIME(5B) KW 1B+ |
| 26. | DATE/TIME MAIN | 8 | IN THE ORDER OF DATE(4B) + TIME(4B) |
| 34. | GENERATION NUMBER | 1 | INCLUDES 2 BITS FOR COPYRIGHT |
| 35. | | | |
| 35. | STATUS INFO 1 (WITH HISTORY) | 1 | CONNECTION POINT INCLUDING EDIT: 0, 1 TO 7f COUNTUP |
| 36. | STATUS INFO 2 (WITHOUT HISTORY) | 1 | REC START POINT IN EDIT MODE: 0, 1 TO 7f COUNTUP |
| 37. | AUDIO MODE | | 10 (TOTAL BYTE) |
| 37. | AUDIO FRAME SIZE | 2 | NO. OF AAU SAMPLES (ONLY LPCM HAS MEANING) |
| 39. | SAMPLING FREQ. | 0.375 | |
| 39. | QUANTIZATION | 0.625 | (5 BITS) VALUE = 0 TO 31 BITS |
| 40. | AUDIO CHANNEL MODE | 0.5 | |
| 40. | AUDIO COMP MODE | 0.5 | |
| 41. | BIT-RATE INDEX | 0.5 | |
| 41. | RESERVED | 0.5 | |
| 42. | AUDIO SOURCE CONTROL | 1 | SUBSTANTIALLY SAME DEFINITION AS DV |
| 43. | | | |
| 43. | RESERVED | 4 | |
| 47. | DECODING REFERENCE INFO. | | 11 (TOTAL BYTE) |
| 47. | AUDIO FRAME NO. (FIRST) | 3 | INTEGRATED VALUE OF GOAF |
| 50. | NO. OF AUDIO FRAMES | 1 | GOAF: NO. OF AAUs RECORDED IN SUCCESSION |
| 51. | PTS | 5 | |
| 56. | AUDIO PTS COMPENSATION | 2 | |
| 58. | | | |
| 58. | RESERVED (AUD-FRAME) | 3 | |
| 94. | | | |
| | TOTAL | 94 | |

FIG. 15

| DATA # | DESCRIPTION | NO. OF BYTES | REMARKS |
|---|---|---|---|
| 0.0 | VIDEO FRAME PACKET KEYWORD | 1 | KEYWORD = 68 |
| 1.0 | LENGTH | 1 | 92 |
| 2.0 | VTR MODE | 1 | OPERATION MODE FOR TS OUTPUT |
| 3.0 | ATNF (FLE+ATN+FLG) | 5 | INFORMATION ON ETN (EFN) POSITION CORRESPONDING TO DTS TIME |
| 8.0 | ETN 8 (EXTENDED TRACK NUMBER) | 3 | EFN CORRESPONDING TO TTC AT DTS TIME |
| 11.0 | TTC | 5 | TTC AT DTS TIME |
| 16.0 | BINARY GROUP | 5 | ONE IN CORRESPONDING FRAME WHEN TTC IS TC |
| 21.0 | | | |
| 21.0 | DATE/TIME ORIGINAL | 10 | IN THE ORDER OF DATE(5B) + TIME(5B) KW 1B |
| 31.0 | DATE/TIME MAIN | 8 | IN THE ORDER OF DATE(4B) + TIME(4B) |
| 39.0 | GENERATION NUMBER | 1 | INCLUDES 2 BITS FOR COPYRIGHT |
| 40.0 | | | |
| 40.0 | STATUS INFO 1 (WITH HISTORY) | 1 | CONNECTION POINT INCLUDING EDIT: 0, 1 TO 7f COUNTUP |
| 41.0 | STATUS INFO 2 (WITHOUT HISTORY) | 1 | REC START POINT IN EDIT MODE: 0, 1 TO 7f COUNT UP |
| 42.0 | SEARCH DATA MODE | 1 | SEARCH REC PATTERN |
| 43.0 | | | |
| 43.0 | VIDEO PACK INFO. | | 11 |
| 43.0 | PACK FRAME NUMBER | 1 | NO. OF FRAMES IN PACK, FF: NO INFO |
| 44.0 | Picture_Number_from_I-pic | 1 | NO. OF FRAMES FROM IMMEDIATELY PRECEDING I-pic |
| 45.0 | 1ST FRAME HEADER | | |
| 45.0 | DATA-H | 1 | |
| 46.0 | VBV DELAY | 2 | |
| 48.0 | HEADER SIZE | 1 | FOR CORRECTING DIFFERENCE IN VBV DELAY HEADER SIZE |
| 49.0 | DTS | 5 | |
| 54.0 | VIDEO MODE | 16 | |
| 70.0 | | | |
| 70.0 | EXTENDED DV PACK ENABLE | 1 | DV PACKET ENABLE b0 TO b2: 1 TO 3 ENABLE: 1 |
| 71.0 | EXTENDED DV PACK | 15 | CLOSED CAPTION 4 BYTES + 1KW/FRAME X3 |
| 86.0 | | | |
| 86.0 | RESERVED (FOR VID-FRAME) | 8 | |
| 94.0 | | | |
| | TOTAL | 94 | |

FIG. 16

| SEARCH DATA (SEARCH REC PATTEN) |
|---|
| b0: x4 OPTION |
| b1: x8 MAIN DATA |
| b2: x8 HELPER DATA |
| b3: x16 OPTION |
| b4: x24 OPTION |
| b5: x32 OPTION |
| b6–7: RESERVED |

FIG. 17

| DATA-H | b3-0 | |
|---|---|---|
| 0: RESERVED | 8: NO PICTURE | STUFFING PACK |
| 1: I-PICTURE | 9: NO EDITABLE | |
| 2: P-PICTURE | a: RESERVED | |
| 3: B-PICTURE | b: RESERVED | A-END |
| 4: COPY PICTURE | c: RESERVED | REC-END |
| 5: V-END | d: RESERVED | AUD |
| 6: RESERVED | e: RESERVED | AUX |
| 7: NO INFO. | f: RESERVED | |

FIG. 18

| DESCRIPTION | NO. OF BYTES | REMARKS |
|---|---|---|
| ECCTB PACKET HEADER | 1 | DATA = 80 |
| LENGTH (PACKET DATA) | 1 | DATA = 93 |
| SUBCODE INFORMATION | | SAME CONTENTS AS SUBCODE OF 1ST TRACK OF ECC |
| ATNF (FLE+ATN+FLG) | 5 | RECORDS VALUE OF 1ST TRACK OF ECC |
| EXTEND TRACK NUMBER | 3 | DITTO |
| TTC | 5 | SAME AS SUBCODE OF 1ST TRACK OF ECC |
| BINARY GROUP | 5 | WRITTEN TO THE SAME SUBCODE AS TTC |
| DATE/TIME ORIGINAL | 10 | DATE/TIME OF ORIGINAL REMAINS UNCHANGED AFTER COPYING |
| DATE/TIME MAIN | 8 | (USED FOR DISPLAY) |
| GENERATION NUMBER | 1 | INCREMENTS +1 EACH TIME LAST MODIFY IS UPDATED |
| | | |
| EDITABLE HEADER MAP | 25 | |
| Picture_Number_from_I_pic | 1 | NO. OF FRAMES FROM IMMEDIATELY PRECEDING I-PIC |
| 1ST EDITABLE HEADER | | |
| DATA-H | 1 | PES-VIDEO |
| VBV DELAY | 2 | |
| HEADER SIZE | 1 | FOR CORRECTING DIFFERENCE IN VBV DELAY HEADER SIZE |
| DTS | 5 | |
| CONTINUITY COUNTER | 1 | b7-4: AUDIO, b3-0: VIDEO |
| POSITION (SB) | 1 | AUD-FRAME PACKET (EDIT AUX POSITION) |
| POSITION (TRACK) | 1 | |
| 2ND EDITABLE HEADER | | |
| DATA-H | 1 | PES VIDEO |
| VBV DELAY | 2 | |
| HEADER SIZE | 1 | FOR CORRECTING DIFFERENCE IN VBV DELAY HEADER SIZE |
| DTS | 5 | |
| CONTINUITY COUNTER | 1 | b7-4: AUDIO, b3-0: VIDEO |
| POSITION (SB) | 1 | AUDIO AUX (2ND EDIT FIRST DATA POSITION) |
| POSITION (TRACK) | 1 | |
| EDIT STATUS ECC | 1 | 0 AT EDIT POINT; COUNTS FOR EACH ECC UP TO 7f |
| SEARCH DATA MODE | 1 | SEARCH REC PATTERN |
| SEARCH PCS | 1 | INDICATES SEARCH DATA RECORD INFORMATION |
| SEARCH DATA BLOCK NUMBER | 1 | x8 SPEED DATA DIVISION NOS.(1 TO 9)<br>00, FF: NO INFO. |
| VIDEO MODE | 16 | SAME CONTENTS AS IN VID-FRAME AUDIO MODE |
| AUDIO MODE | 10 | SAME CONTENTS AS IN AUD-FRAME VIDEO MODE |
| RESERVED | 1 | |
| | | |
| TOTAL | 95 | |

FIG. 19

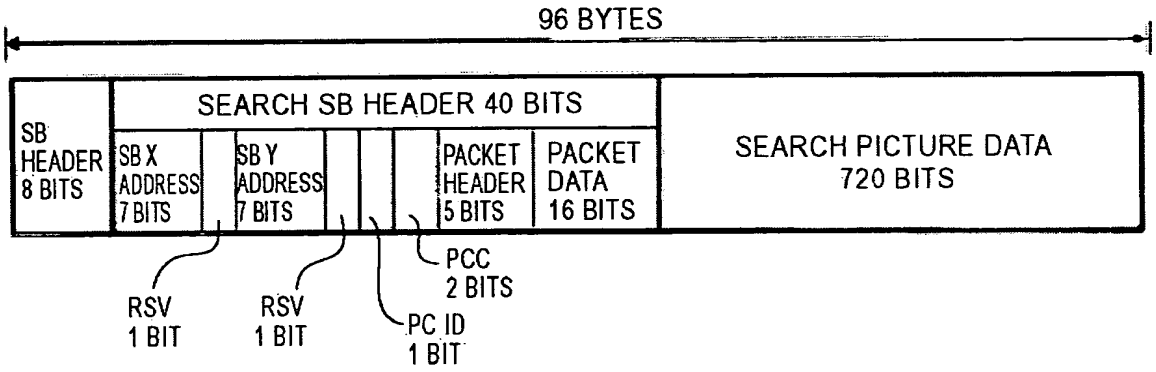



FIG. 20

| PACKET HEADER | DESCRIPTION | L/H | REMARKS | |
|---|---|---|---|---|
| 0 | SH | L | SEARCH HEADER (IMAGE INFORMATION) | |
| 1 | SH | H | SEARCH HEADER (IMAGE INFORMATION) | |
| 2 | TTC | L | DESCRIPTION OF SUBCODE | FOR DISPLAY |
| 3 | TTC | H | | |
| 4 | REC TIME | L | | |
| 5 | REC TIME | H | | |
| 6 | REC DATE | L | | |
| 7 | REC DATE | H | | |
| 8 | ATN+FLG | L | | FOR SEARCH POSITIONAL INFORMATION |
| 9 | ATN+FLG | H | | |
| 10 | ETN | L | | |
| 11 | ETN | H | | |
| 12 | BINARY GP | L | | |
| 13 | BINARY GP | H | | |
| 14 | PART NO. | L | (FOR RECORDED TAPE) | |
| 15 | PART NO. | H | (FOR RECORDED TAPE) | |
| 16 | CHAPTER START | L | (FOR RECORDED TAPE) | |
| 17 | CHAPTER START | H | (FOR RECORDED TAPE) | |
| 16~31 | RESERVED | | RESERVED | |

FIG. 21

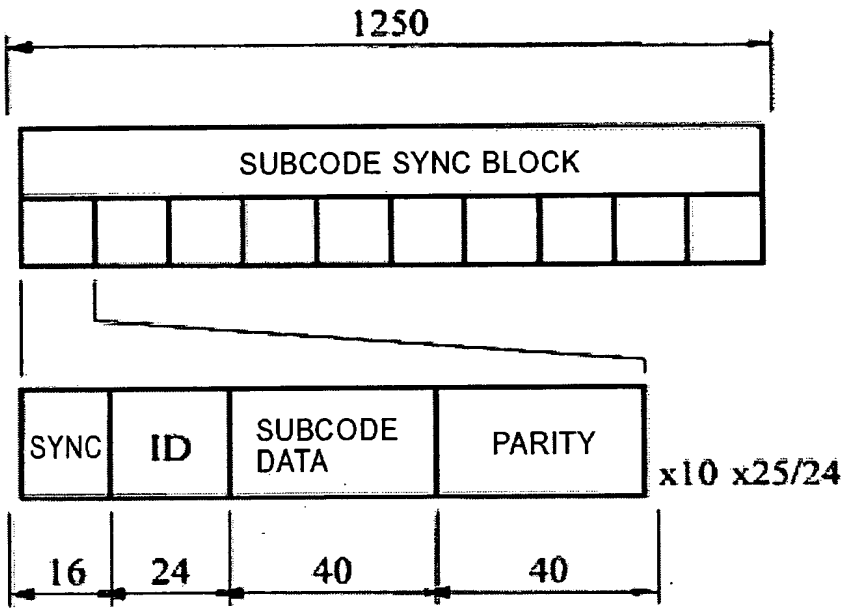



FIG. 22

| | MSB LSB |
|---|---|
| SYNC PATTERN S0 | 1 0 0 1 1 1 1 1 1 1 1 1 1 0 0 0 0 |
| SYNC PATTERN S1 | 0 1 1 0 0 0 0 0 0 0 0 0 0 1 1 1 1 |

FIG. 23

| SB No. | ID0 | | ID1 | | ID2 | |
|---|---|---|---|---|---|---|
| | MSB | LSB | MSB | LSB | MSB | LSB |
| 0 | F_TYPE | TRACK PAIR NUMBER | RESERVED | SB NUMBER | OVERWRITE PROTECT | |
| 1 | F_TYPE | TRACK PAIR NUMBER | RESERVED | SB NUMBER | OVERWRITE PROTECT | |
| 2 | F_TYPE | TRACK PAIR NUMBER | RESERVED | SB NUMBER | OVERWRITE PROTECT | |
| 3 | F_TYPE | TRACK PAIR NUMBER | RESERVED | SB NUMBER | OVERWRITE PROTECT | |
| 4 | F_TYPE | TRACK PAIR NUMBER | RESERVED | SB NUMBER | OVERWRITE PROTECT | |
| 5 | F_TYPE | TRACK PAIR NUMBER | RESERVED | SB NUMBER | OVERWRITE PROTECT | |
| 6 | F_TYPE | TRACK PAIR NUMBER | RESERVED | SB NUMBER | OVERWRITE PROTECT | |
| 7 | F_TYPE | TRACK PAIR NUMBER | RESERVED | SB NUMBER | OVERWRITE PROTECT | |
| 8 | F_TYPE | TRACK PAIR NUMBER | RESERVED | SB NUMBER | OVERWRITE PROTECT | |
| 9 | F_TYPE | TRACK PAIR NUMBER | RESERVED | SB NUMBER | OVERWRITE PROTECT | |

FIG. 24

| | EVEN PAIR TRACK 0 | | ODD PAIR TRACK 1 | |
|---|---|---|---|---|
| | 0 | 1 | 2 | 3 |
| SB No. | EVEN-PAIR 1ST TRACK | EVEN-PAIR 2ND TRACK | ODD-PAIR 1ST TRACK | ODD-PAIR 2ND TRACK |
| 0 | FLE+ATNF | FLE+ATNF | FLE+ATNF | FLE+ATNF |
| 1 | ETN | ETN | TTC | TTC |
| 2 | TTC | TTC | REC DATE | REC DATE |
| 3 | NO INFO | NO INFO | REC TIME | REC TIME |
| 4 | FLE+ATNF | FLE+ATNF | FLE+ATNF | FLE+ATNF |
| 5 | TTC | TTC | ETN | ETN |
| 6 | ETN | ETN | TTC | TTC |
| 7 | TTC | TTC | REC DATE | REC DATE |
| 8 | NO INFO | NO INFO | REC TIME | REC TIME |
| 9 | FLE+ATNF | FLE+ATNF | FLE+ATNF | FLE+ATNF |

FIG. 25

| BYTE POS. NO. | FIXED DATA AREA (RECORDED IN NON-PACKET STRUCTURE) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
| D0 | FLE | | | | | | | |
| D1 | | | | | | | LSB | BF |
| D2 | ATN 23 BITS (BINARY) | | | | | | | |
| D3 | MSB | | | | | | | |
| D4 | FLG | | | | | | | |

FIG. 26

| FLE: FLAFG EXTENSION | | | |
|---|---|---|---|
| BIT | NAME | DESCRIPTION OF DATA | DETAILED DATA |
| 7 | SF1 | PRESENCE OF x8 SEARCH HELPER | 0: HELPER IS PRESENT, 1: HELPER IS ABSENT |
| 6 | SF2 | PRESENCE OF x24 SEARCH DATA | 0: DATA IS PRESENT, 1: DATA IS ABSENT |
| 5<br>4 | SPH | x24 SEARCH PHASE<br>(0 – 2) | COUNTER OF 3 CYCLES, 0, 1, AND 2, REMAINDER FROM DIVIDING THE QUOTIENT, WHICH IS OBTAINED BY DIVIDING ETN BY 16, FURTHER BY 3 |
| 3<br>2<br>1<br>0 | EPO | EDITABLE PICTURE OFFSET<br>(0 – 15) | PHASE DIFFERENCE FROM MAIN DATA CHANGES FOR EACH FRAME<br>15=NO INFO |

FIG. 27

| FLG | | | |
|---|---|---|---|
| BIT | NAME | DESCRIPTION OF DATA | DETAILED DATA |
| 7 | I | INDEX ID | SEARCH POINT MARK (CORRESPONDING TO DV) |
| 6 | - | RESERVED | |
| 5 | P | PP ID | STILL IMAGE SEARCH MARK (CORRESPONDING TO DV) |
| 4 | - | RESERVED | |
| 3 | EF | REC END ECC FLAG | GENERATED USING ALTAIR |
| 2<br>1<br>0 | PF | PICTURE TYPE FLAG<br>(0 – 7) | GENERATED USING ALTAIR<br>1=I-PIC, 2=B-PIC, 3=P-PIC,<br>4=C-PIC, 5=V-END, 7=NO INFO |

FIG. 28

| BYTE POS. NO. | ETE: EXTENDED TRACK NUMBER | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
| D0 | 0 | 0 | 7 | | | | | |
| D1 | | | | | | | | LSB |
| D2 | ETN 24 BITS | | | | | | | |
| D3 | MSB | | | | | | | |
| D4 | RESERVED | | | | | | | |

FIG. 29

| | TITLE 3: TIME CODE : TTC OR TC | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
| PC0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 |
| PC1 | S2/BF | S1 | F + POSITION | | FRAMES – POSITION | | | |
| PC2 | S3 | SEC + POSITION | | | SECONDS – POSITION | | | |
| PC3 | S4 | MIN + POSITION | | | MINUTES – POSITION | | | |
| PC4 | S6 | S5 | H + POSITION | | HOURS – POSITION | | | |

FIG. 30

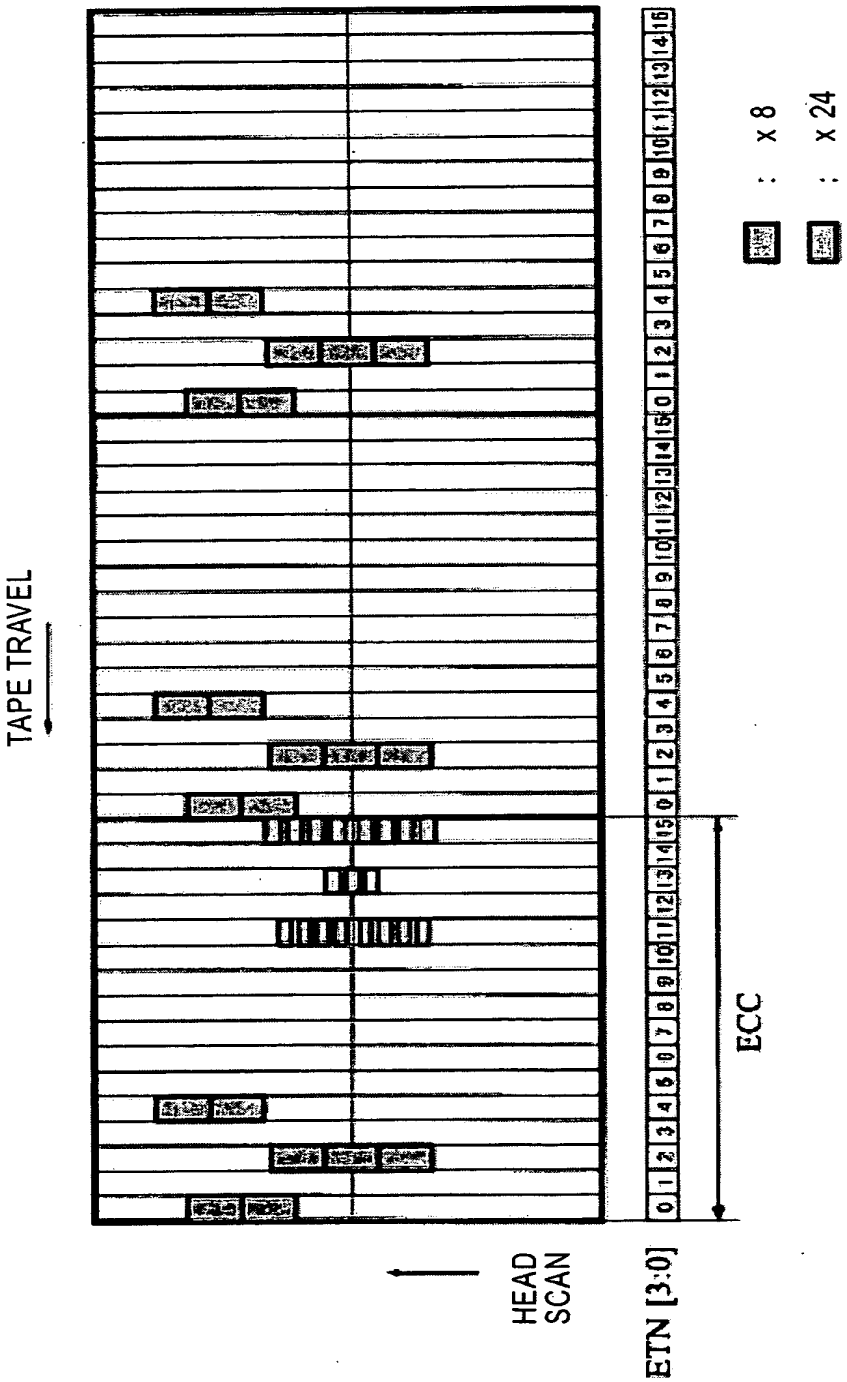


FIG. 31

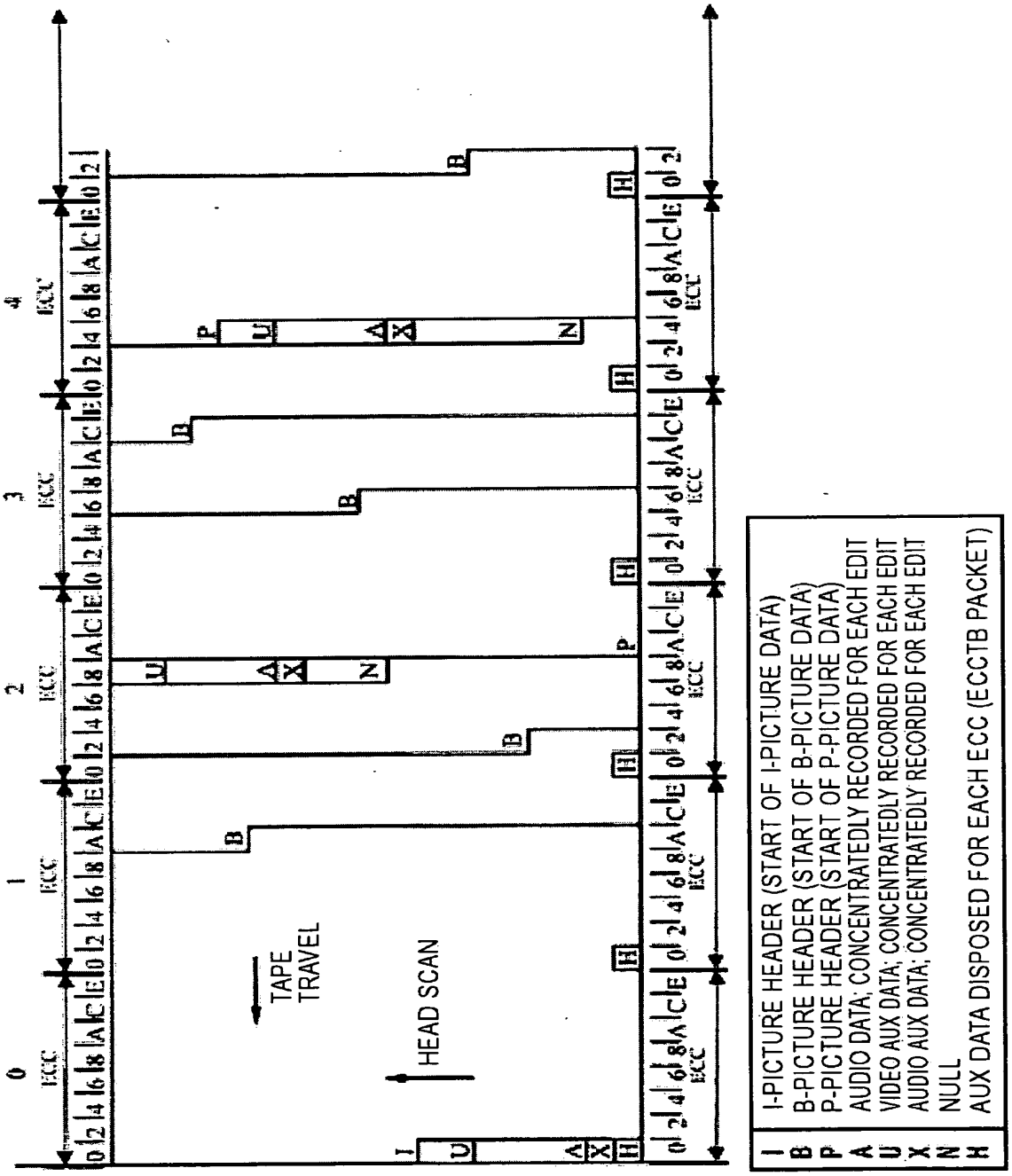

TAPE TRAVEL
HEAD SCAN
I I-PICTURE HEADER (START OF I-PICTURE DATA)
B B-PICTURE HEADER (START OF B-PICTURE DATA)
P P-PICTURE HEADER (START OF P-PICTURE DATA)
A AUDIO DATA; CONCENTRATEDLY RECORDED FOR EACH EDIT
U VIDEO AUX DATA; CONCENTRATEDLY RECORDED FOR EACH EDIT
X AUDIO AUX DATA; CONCENTRATEDLY RECORDED FOR EACH EDIT
N NULL
H AUX DATA DISPOSED FOR EACH ECC (ECCTB PACKET)

FIG. 32

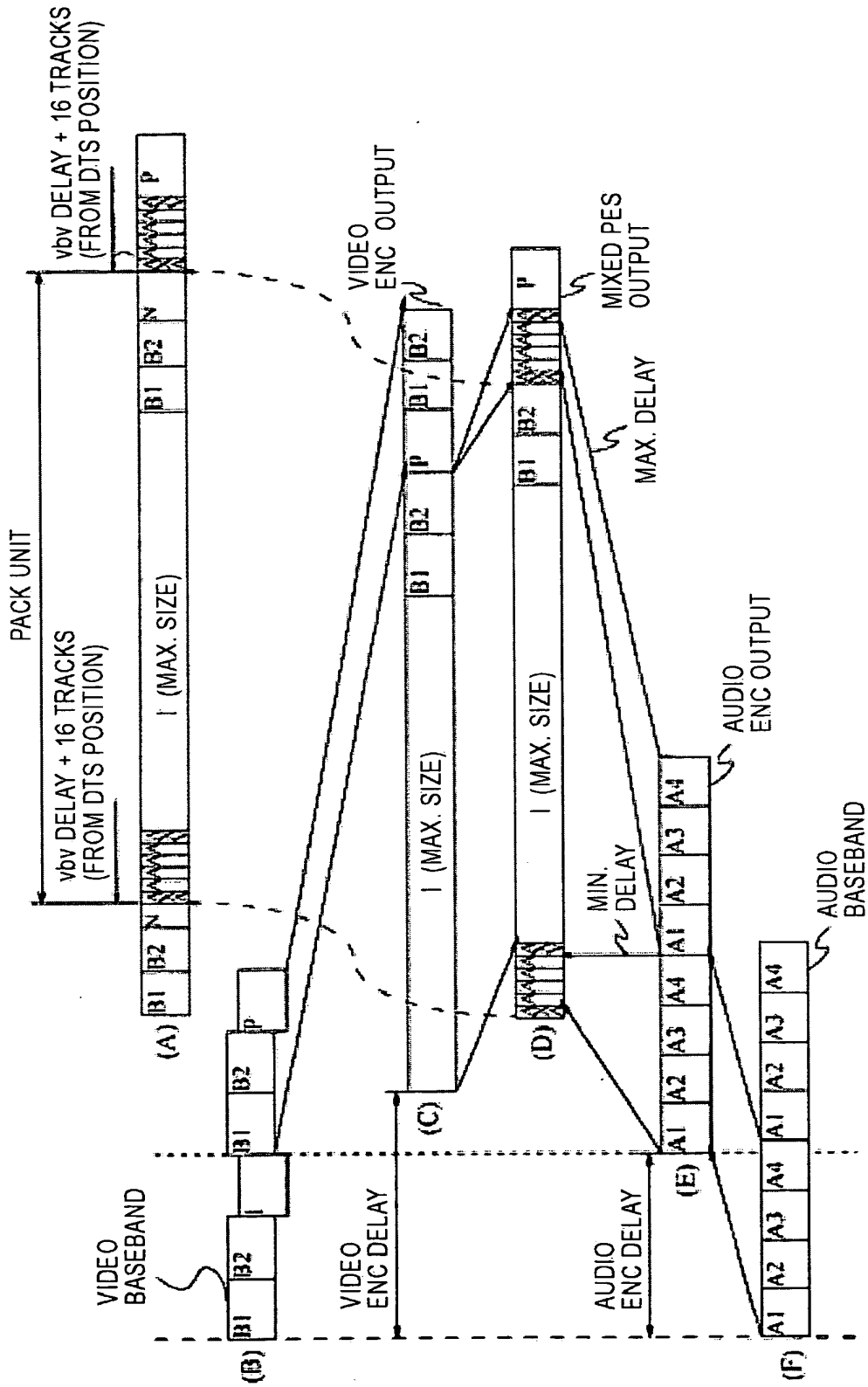

PACK UNIT
vbv DELAY + 16 TRACKS (FROM DTS POSITION)
vbv DELAY + 16 TRACKS (FROM DTS POSITION)
I (MAX. SIZE)
(A)
VIDEO ENC OUTPUT
I (MAX. SIZE)
(C)
I (MAX. SIZE)
(D)
MIXED PES OUTPUT
MAX. DELAY
MIN. DELAY
AUDIO ENC OUTPUT
AUDIO BASEBAND
VIDEO BASEBAND
VIDEO ENC DELAY
AUDIO ENC DELAY
(B)
(E)
(F)

FIG. 33

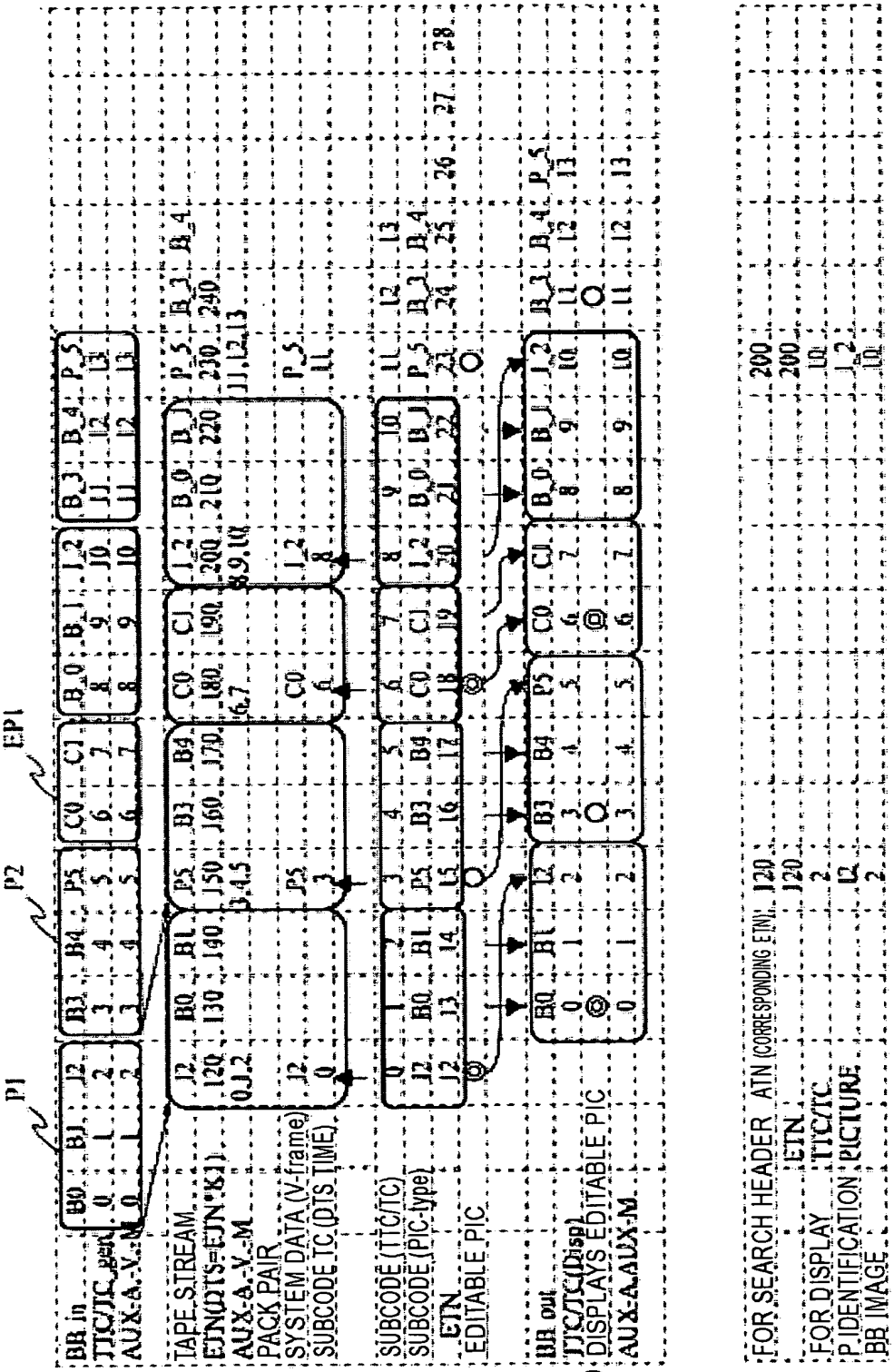
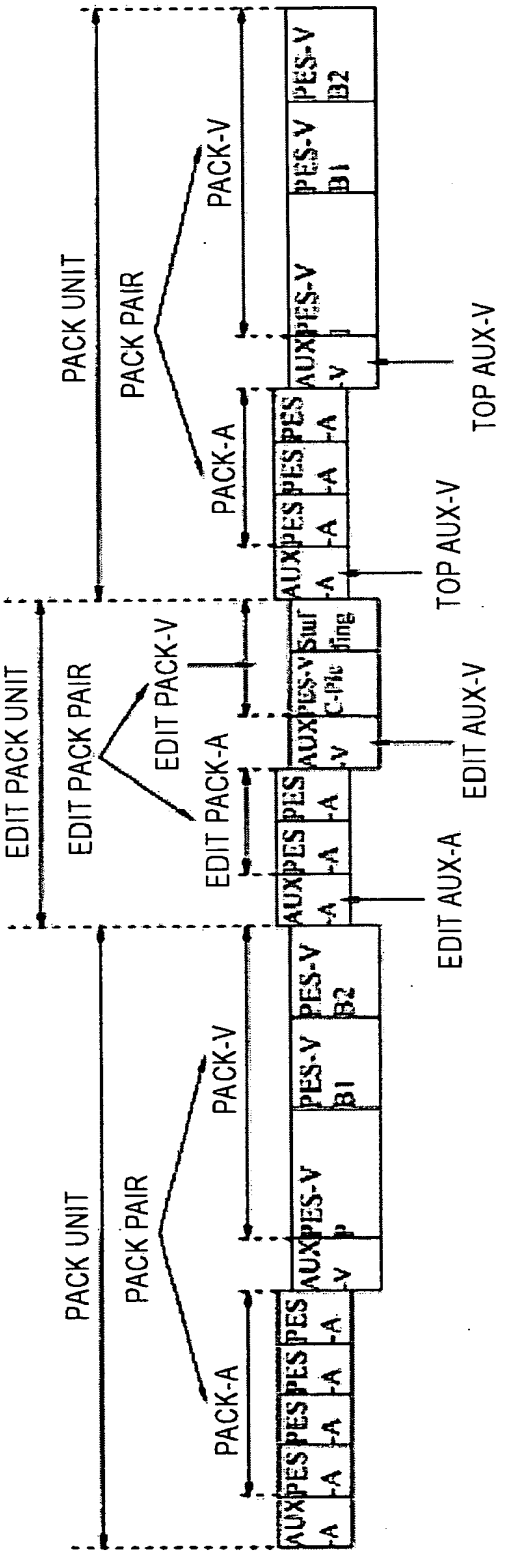

P1
P2
EP1
(A)
BB in
TTC/TC
AUX-A-Y-M
(B)
TAPE STREAM
EIN/DTS=EIN*K1)
AUX-A-Y-M
PACK PAIR
SYSTEM DATA (V-frame)
SUBCODE TC (DTS TIME)
(C)
SUBCODE (TTC/TC)
SUBCODE (PIC-type)
EIN
EDITABLE PIC
BB out
TTC/TC(Disp)
DISPLAYS EDITABLE PIC
AUX-A-AUX-M
(D)
(E)
FOR SEARCH HEADER ATN (CORRESPONDING EIN)
EIN
FOR DISPLAY TTC/TC
P.IDENTIFICATION PICTURE
BB IMAGE

FIG. 34




| | | | |
|---|---|---|---|
| COMBINING UNIT | PACK | EDIT POINT AUX-A | EDIT AUX-A |
| COMBINING UNIT PAIR | PACK PAIR | EDIT POINT AUX-V | EDIT AUX-V |
| COMBINING UNIT AUDIO | PACK-A | | |
| COMBINING UNIT VIDEO | PACK-V | AUDIO IMMEDIATELY FOLLOWING EDIT POINT | TOP PACK-A |
| EDIT POINT COMBINING UNIT | EDIT PACK | AUX-A IMMEDIATELY FOLLOWING EDIT POINT | TOP AUX-A |
| EDIT POINT COMBINING UNIT PAIR | EDIT PACK PAIR | AUX-V IMMEDIATELY FOLLOWING EDIT POINT | TOP AUX-V |
| EDIT POINT COMBINING UNIT AUDIO | EDIT PACK-A | EDIT POINT INSERTION UNIT | EDIT PACK UNIT |
| EDIT POINT COMBINING UNIT VIDEO | EDIT PACK-V | EDIT UNIT | PACK UNIT |

FIG. 35

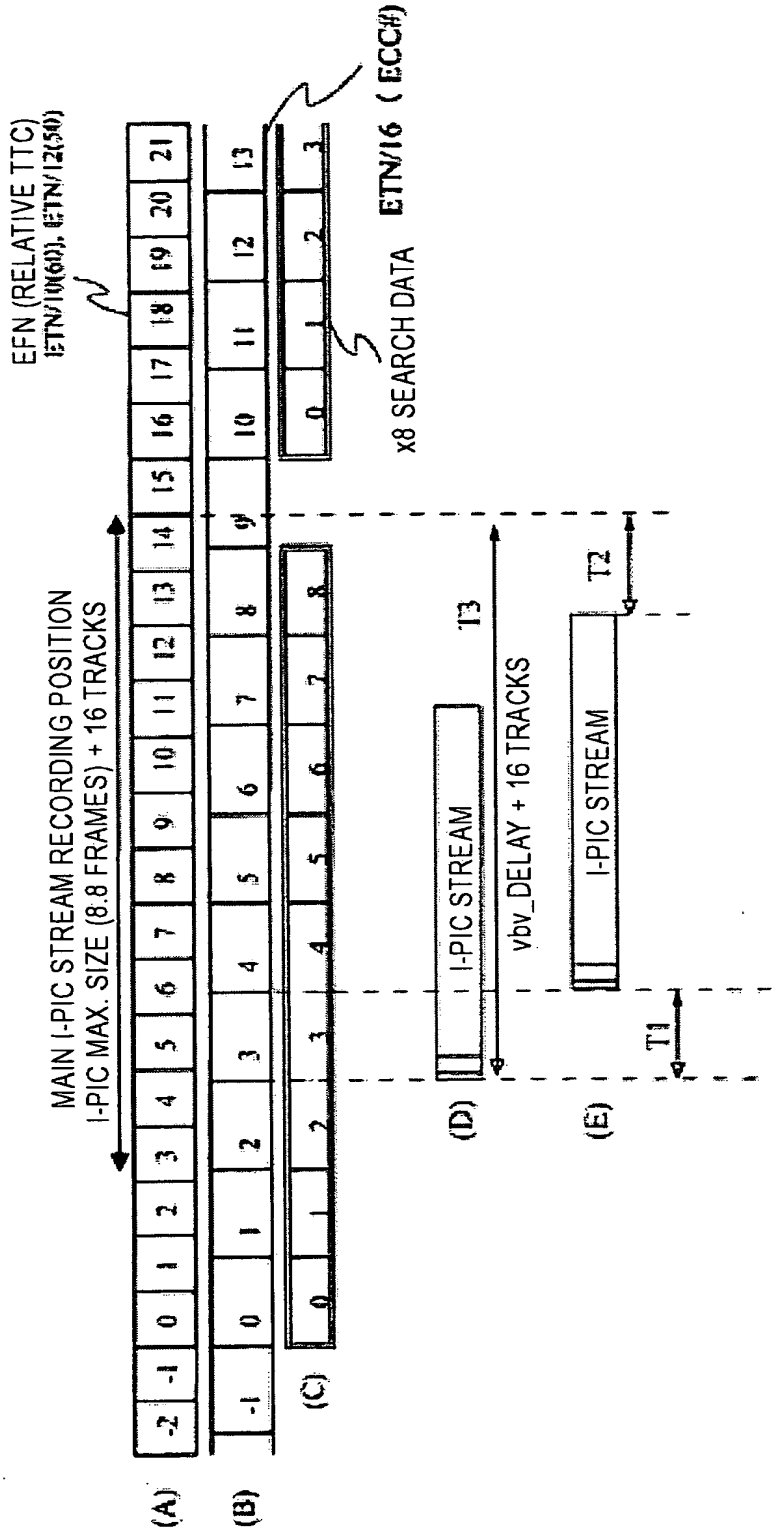

EFN (RELATIVE TTC)
ETN/10(60), ETN/12(50)
MAIN I-PIC STREAM RECORDING POSITION
I-PIC MAX. SIZE (8.8 FRAMES) + 16 TRACKS
x8 SEARCH DATA
ETN/16 ( ECC# )
(A)
(B)
(C)
(D)
(E)
I-PIC STREAM
vbv_DELAY + 16 TRACKS
T3
T2
T1
I-PIC STREAM

FIG. 36

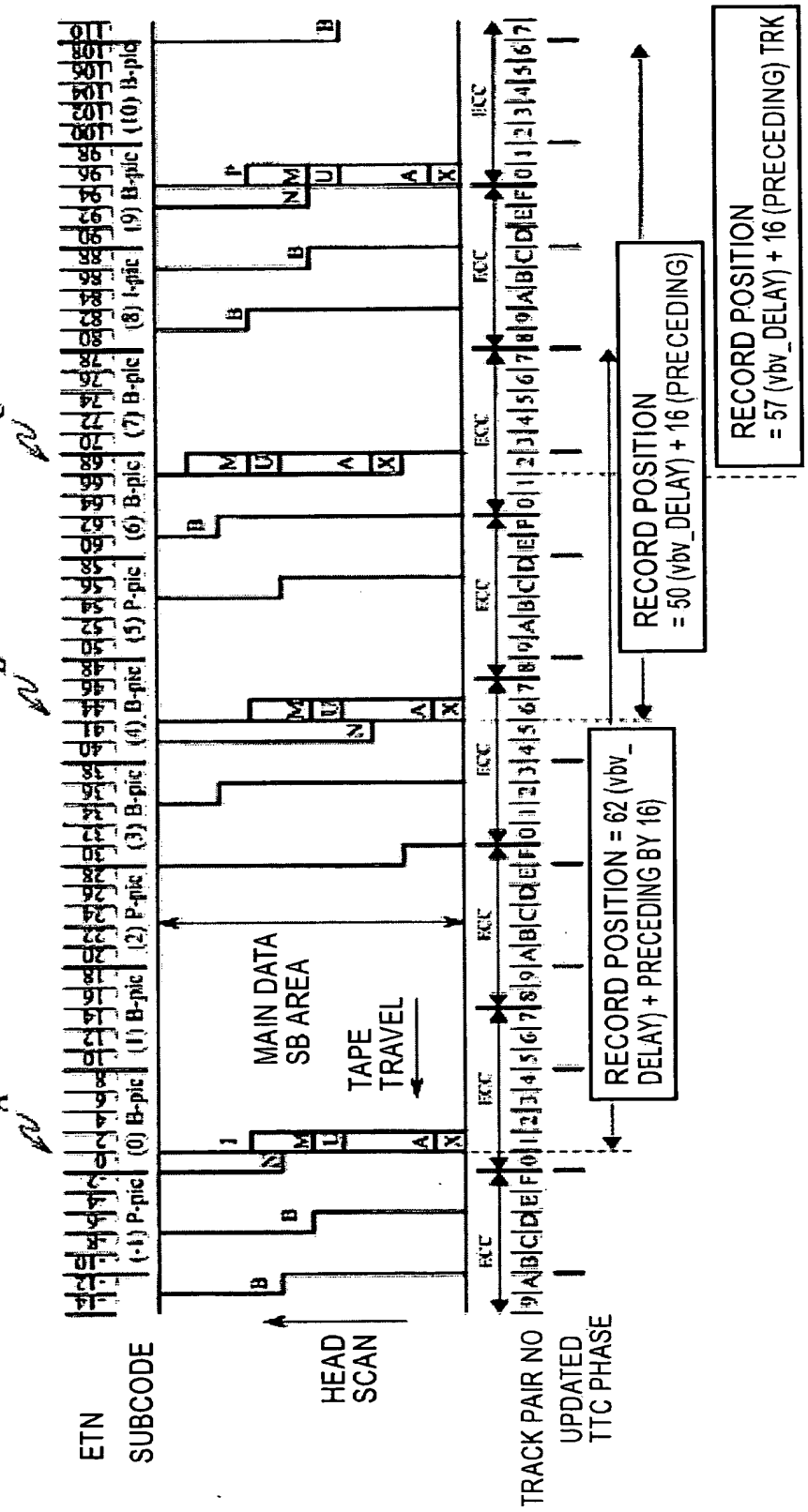

A
B
C
ETN
SUBCODE
(-1) P-pic
(0) B-pic
(1) B-pic
(2) P-pic
(3) B-pic
(4) B-pic
(5) P-pic
(6) B-pic
(7) B-pic
(8) I-pic
(9) B-pic
(10) B-pic
HEAD SCAN
MAIN DATA SB AREA
TAPE TRAVEL
TRACK PAIR NO
UPDATED TTC PHASE
RECORD POSITION = 62 (vbv_ DELAY) + PRECEDING BY 16)
RECORD POSITION = 50 (vbv_DELAY) + 16 (PRECEDING)
RECORD POSITION = 57 (vbv_DELAY) + 16 (PRECEDING) TRK

FIG. 37

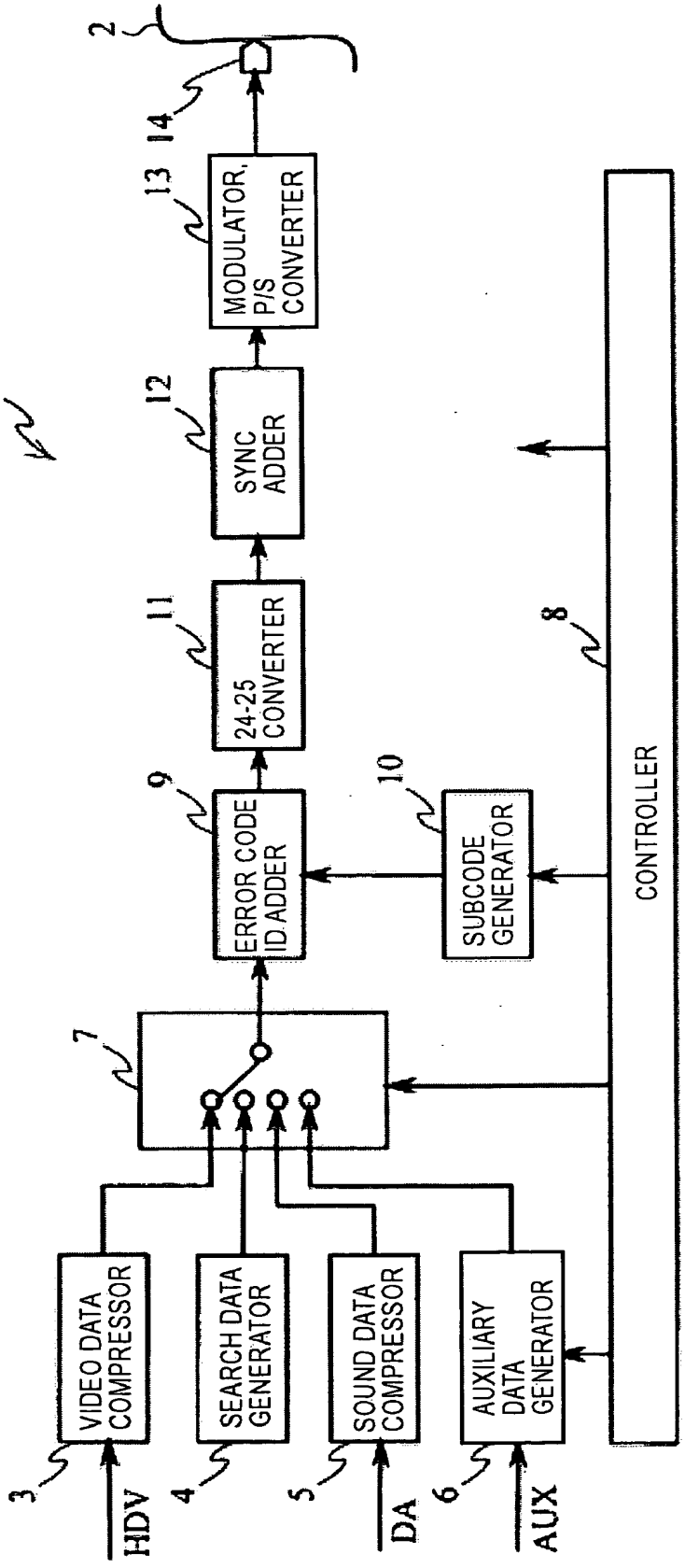

1
2
3
4
5
6
7
8
9
10
11
12
13
14
HDV
DA
AUX
VIDEO DATA COMPRESSOR
SEARCH DATA GENERATOR
SOUND DATA COMPRESSOR
AUXILIARY DATA GENERATOR
ERROR CODE ID ADDER
SUBCODE GENERATOR
24-25 CONVERTER
SYNC ADDER
MODULATOR, P/S CONVERTER
CONTROLLER

FIG. 38

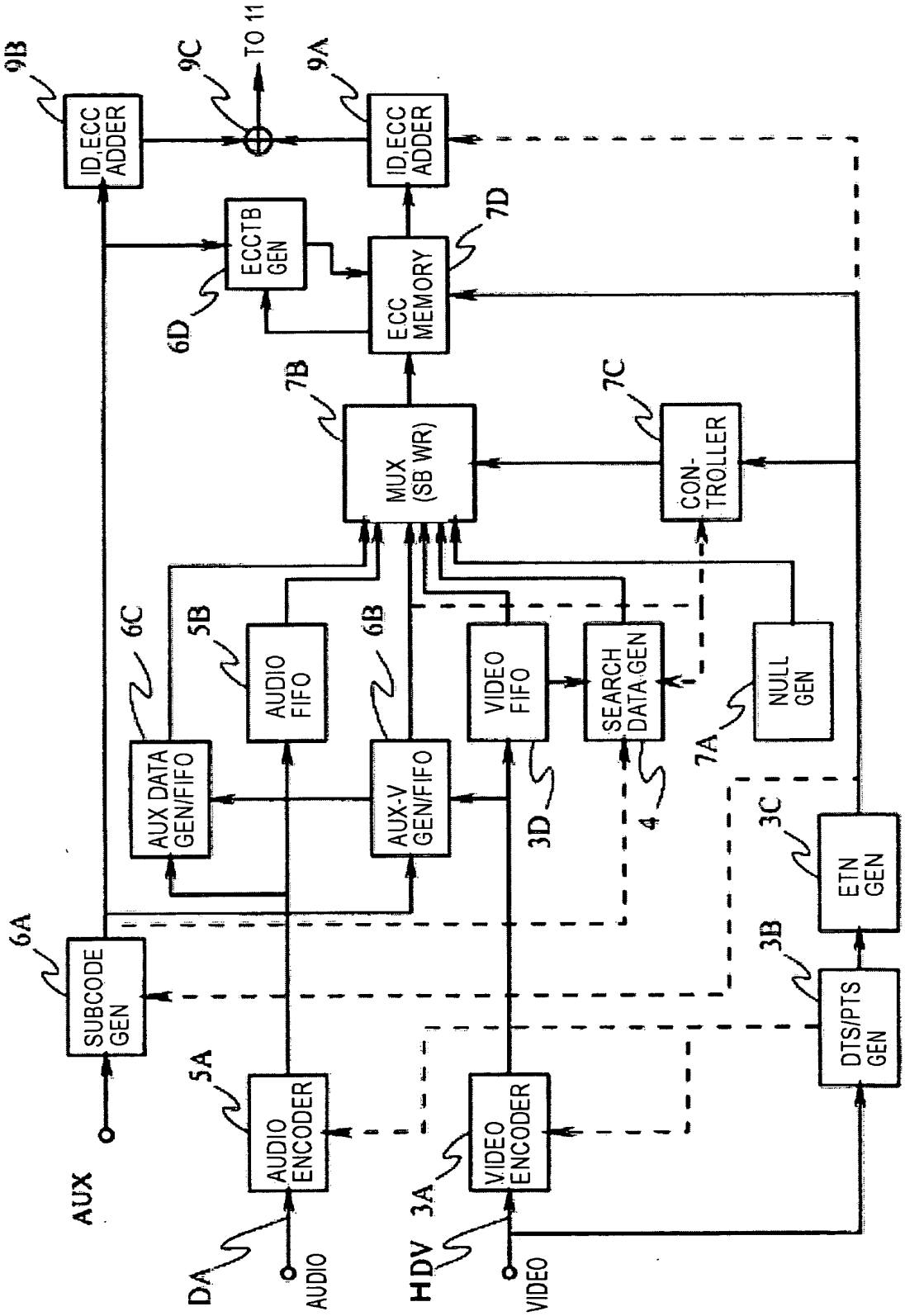

9B
ID,ECC ADDER
9C
TO 11
9A
ID,ECC ADDER
ECCTB GEN
6D
7D
E.CC MEMORY
7B
MUX (SB WR)
7C
CON-TROLLER
6C
5B
AUDIO FIFO
6B
VIDEO FIFO
SEARCH DATA GEN
NULL GEN
7A
AUX DATA GEN/FIFO
AUX-V GEN/FIFO
3D
4
3C
ETN GEN
6A
SUBCODE GEN
3B
DTS/PTS GEN
5A
AUDIO ENCODER
VIDEO ENCODER
3A
AUX
DA
AUDIO
HDV
VIDEO

FIG. 39

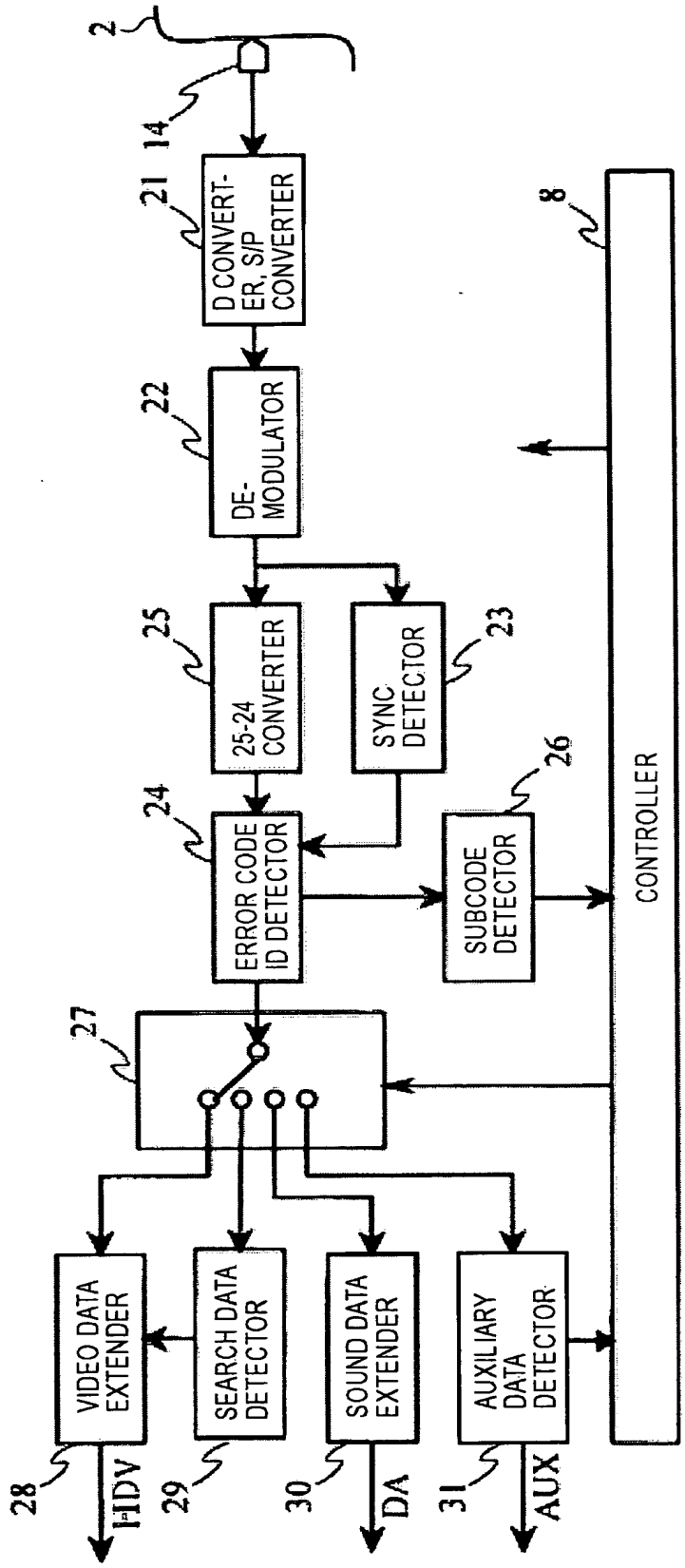
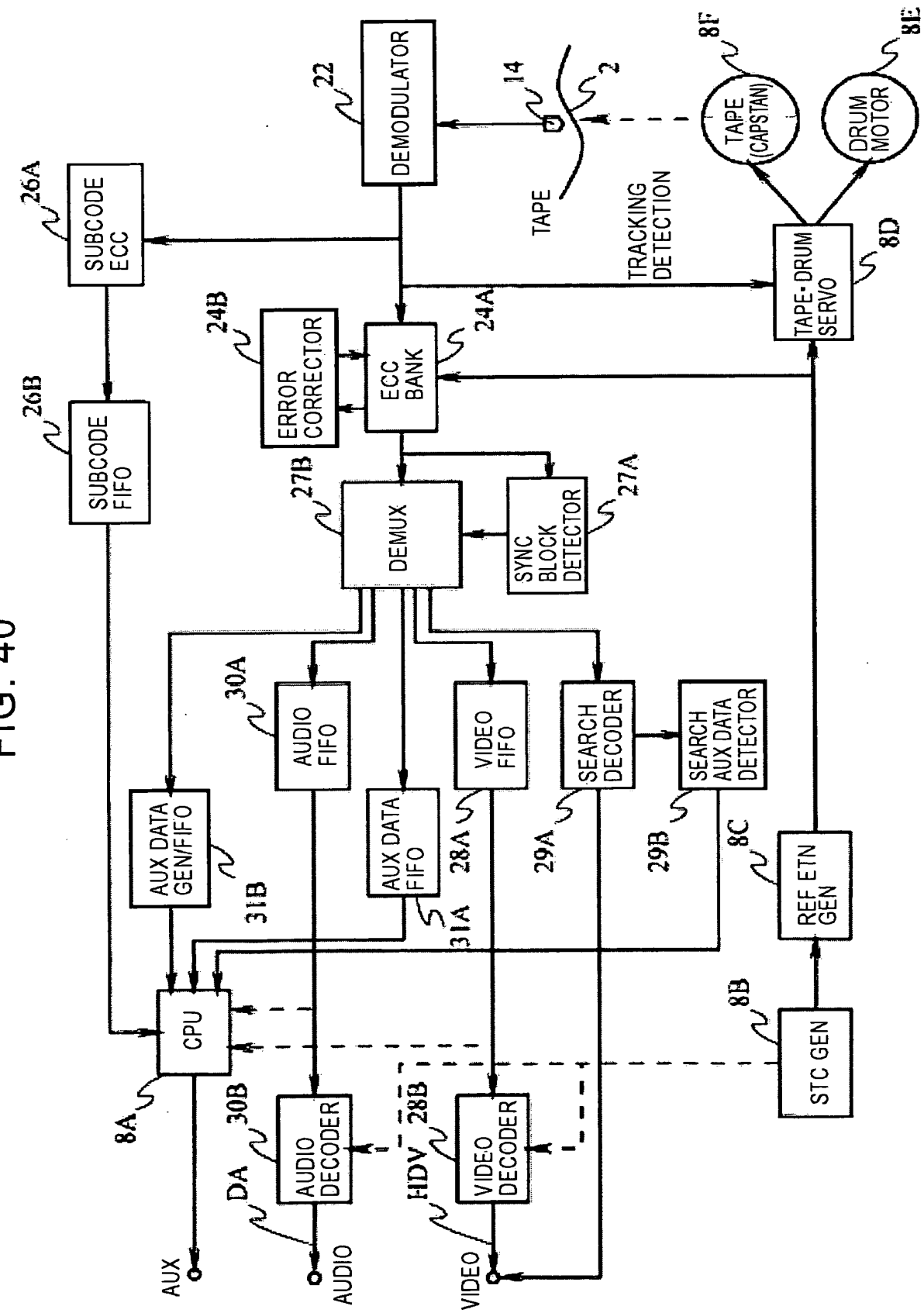

1
2
14
21
D CONVERT-ER, S/P CONVERTER
22
DE-MODULATOR
25
25-24 CONVERTER
23
SYNC DETECTOR
24
ERROR CODE ID DETECTOR
26
SUBCODE DETECTOR
8
CONTROLLER
27
VIDEO DATA EXTENDER
SEARCH DATA DETECTOR
SOUND DATA EXTENDER
AUXILIARY DATA DETECTOR
28
HDV
29
30
DA
31
AUX

FIG. 40


DEMODULATOR
22
14
2
TAPE
TAPE (CAPSTAN)
8F
DRUM MOTOR
8E
TRACKING DETECTION
TAPE-DRUM SERVO
8D
SUBCODE ECC
26A
SUBCODE FIFO
26B
ERROR CORRECTOR
24B
ECC BANK
24A
DEMUX
27B
SYNC BLOCK DETECTOR
27A
AUDIO FIFO
30A
VIDEO FIFO
28A
SEARCH DECODER
29A
SEARCH AUX DATA DETECTOR
29B
AUX DATA GEN/FIFO
31B
AUX DATA FIFO
31A
REF ETN GEN
8C
CPU
8A
STC GEN
8B
AUDIO DECODER
30B
VIDEO DECODER
28B
DA
HDV
AUX
AUDIO
VIDEO

REFERENCE NUMERALS

1: VIDEO TAPE RECORDER
2: MAGNETIC TAPE
3: VIDEO DATA COMPRESSOR
3A: VIDEO ENCODER
3B: DTS/PTS GENERATOR
3C: ETN GENERATOR
3D, 28A: VIDEO FIFO
4: SEARCH DATA GENERATOR
5: SOUND DATA COMPRESSOR
5A: AUDIO ENCODER
5B, 30A: AUDIO FIFO
6: AUXILIARY DATA GENERATOR
6A: SUBCODE GENERATING CIRCUIT
6B: VIDEO AUXILIARY DATA GENERATING CIRCUIT
6C: AUDIO AUXILIARY DATA GENERATING CIRCUIT
6D: ECCTB GENERATOR
7: MULTIPLEXING CIRCUIT
7A: NULL GENERATOR
7B: MULTIPLEXER
7C: CONTROLLER
7D: ECC MEMORY
8: CONTROLLER
8A: CENTRAL PROCESSING UNIT
8B: SYSTEM TIME CLOCK STC GENERATOR
8C: REFERENCE ETN GENERATOR
8D: TAPE DRUM SERVO CIRCUIT
8E: DRUM MOTOR
8F: CAPSTAN MOTOR
9: ERROR CODE ID ADDER
9A, 9B: ID, ECC ADDING CIRCUIT
9C: ADDING CIRCUIT
10: SUBCODE GENERATOR
11: 24-25 CONVERTER
12: SYNC ADDING CIRCUIT
13: MODULATOR, P/S CONVERTER
14: MAGNETIC HEAD
21: DIGITAL CONVERTER, S/P CONVERTER
22: DEMODULATOR
23: SYNC DETECTOR
24: ERROR CORRECTION ID DETECTOR
24A: ECC BANK
24B: ERROR CORRECTION
25: 25-24 CONVERTER
26: SUBCODE DETECTOR
26A: SUBCODE ECC
26B: SUBCODE FIFO
27: SEPARATING CIRCUIT
27A: SB DETECTING CIRCUIT
27B: DEMULTIPLEXER
28: VIDEO DATA EXTENDER
28B: VIDEO DECODER

29: SEARCH DATA DETECTOR
29A: SEARCH DECODER
29B: SEARCH AUXILIARY DATA DETECTING CIRCUIT
30: SOUND DATA EXTENDER
30B: AUDIO DECODER
31: AUXILIARY DATA DETECTOR
31A: AUXILIARY DATA FIFO
31B: AUXILIARY DATA GENERATOR FIFO

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